

California Solar Initiative
Progress Report
2012 Annual
Data Annex

April 26, 2013

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This report was compiled by the California Solar Initiative (CSI) Program Administrators (PA or PAs) – Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and the California Center for Sustainable Energy (CCSE) – pursuant to direction from the California Public Utilities Commission (CPUC or Commission).

1 Introduction and Background:

The original step allocations and megawatt (MW) goals were divided among the three investor-owned utilities (IOUs) according to the proportion of their respective electricity sales. The goals and budgets were determined by each utility's percentage of electricity sales compared to the total of all three IOUs sales. These allocated percentages are:

Program Administrator	Allocated Percent (%)
PG&E	43.7
SCE	46.0
SDG&E	10.3

Pursuant to Senate Bill 585 an additional \$200 million was allocated to PG&E, SCE, and SDG&E using the allocation percentages as adopted by the Commission through the D 11-12-019. Moreover, Table 1 shows the CSI general market M&O budget of \$15 million is equally split (\$5 million each) among three PAs.

Table 1. CSI General Market Budget and Allocation by Utility

		Allocation by Utility		
Program Component	Total Budget	PG&E	SCE	SDG&E
D.06-08-028 allocation	100.00%	43.70%	46.00%	10.30%
General Market Program Incentives	\$1,747,810,000	\$763,792,970	\$803,992,600	\$180,024,430
SB 585 Budget Increase*	\$200,000,000	\$114,000,000	\$64,000,000	\$22,000,000
Total Incentives	\$1,947,810,000	\$877,792,970	\$867,992,600	\$202,024,430
Program Administration	\$94,860,000	\$41,453,820	\$43,635,600	\$9,770,580
Total Measurement & Evaluation (M&E)	\$26,700,000	\$11,667,900	\$12,282,000	\$2,750,100
M&O, general market CSI**	\$15,000,000	\$5,000,000	\$5,000,000	\$5,000,000
M&O, CSI-Thermal Electric Only	\$6,250,000	\$2,731,250	\$2,875,000	\$643,750
Total Marketing and Outreach (M&O)	\$21,250,000	\$7,731,250	\$7,875,000	\$5,643,750
Unallocated	\$6,900,000	\$3,015,300	\$3,174,000	\$710,700
Total General Market Program	\$2,097,520,000	\$941,661,240	\$934,959,200	\$220,899,560

Source: D.11-12-019, Appendix Table 1.

Notes: *The original allocation percentages are not applicable to the SB 585 budget increase.

**The CPUC adopted the CSI General Market M&O budget in D.11-07-031.

2 Administrative Performance

The CPUC tracks a number of administrative metrics in order to monitor potential program administration issues. In particular, the CPUC is interested in application and payment processing times, including the amount of time needed to move projects from: application to project completion, application to reservation, reservation to installation, incentive claim request to payment approval, and from payment approval to payment issued. Additionally, the CPUC monitors the average number of days for interconnection applications to be completed.

2.1 CSI Program and Interconnection Metrics

Reported metrics are described in the following sections. For more detailed definitions, see: http://csi.powerclerk.com/ProgramDocs/CSI/PowerClerk_Status_Info.pdf.

2.1.1 Project Completion Time

Project Completion is measured from time between "First Reservation Request Review Date" to either "First Completed Date" or "First PBI-In Payment Date" in calendar days for all projects completed through December 31, 2012. These times reflect both the PA processing times and host customer responsiveness to inquiries, requests for additional data and inspection scheduling. The data in the figures below is divided by residential and non-residential customer projects completed in each given month, for each PA.

2.1.2 Application to Reservation Time

The PAs strive to process reservation requests in 30 days or less for both residential and non-residential customer applications. Application to Reservation includes the application processing time, from the date the application is electronically received through PowerClerk and time-stamped to the date that a reservation is granted (either "first reservation reserved" status or "first pending RFP" for non-residential applications or "first confirmed reservation" status for residential applications). This time period includes both PA application processing time and the time that the host customer takes to respond to requests for more information or application corrections.

2.1.3 Installation Time

The average installation time is determined by the applicant and not the PA. Residential applicants have 12 months and non-residential applicants have 18 months from the date of the confirmed reservation to submit an Incentive Claim Form (ICF). In certain cases applicants request and may be granted extensions. Installation times also vary according to residential and non-residential projects. The average number of calendar days is measured between the customer's confirmed reservation date and the date that the ICF was received by the PA, for all applications for which an ICF was received.

2.1.4 ICF Processing Time (without Inspection)

For CSI Program participants, incentive claim processing is an extremely important part of the project timeline. Incentive Claim Processing (without Inspection) measures how quickly incentive claims are processed for different types of projects, from the date that

the ICF is electronically received and time-stamped, through PowerClerk by the PA, to the date that the application is changed to “pending payment” status.

2.1.5 ICF Processing Time (with Inspection)

Incentive Claim Processing (with Inspection) measures how quickly incentive claims are processed for different types of projects, from the date that the ICF is electronically received and time-stamped, through PowerClerk by the PA, to the date that the application is changed to “pending payment” status. After the ICF is submitted, the PA selects a random number of projects for on-site field inspection, during which inspectors verify that the installed system matches the system identified in the paperwork. As scheduling and inspection times often vary, projects identified for inspection are sorted into groups that were or were not inspected.

2.1.6 Payment Time

Payment time is measured from the time a project enters “Pending Payment” status to when it reaches either “Completed” or “PBI-In Payment” status. This reflects the amount of time it takes to issue payment to the applicant.

2.1.7 Interconnection Time

Interconnection is measured from the date the utility’s interconnection department deems the interconnection application to be complete (e.g., final single line diagram, final building permit, etc.) to the date the utility issues the “permission to operate” letter. This time is generally under the utility’s control and does not depend on additional inputs from other entities, such as cities, counties, etc. However, exogenous factors, such as customer availability, adverse weather conditions, or unexpectedly high volume of applications, may impact this process.

2.2 Standards of Performance

D.11-07-031 requires PAs to process 95 percent of applications within a specified number of calendar days, depending on whether the application was for a residential or non-residential system, and whether an inspection was required. Table 2 shown below presents these application processing guidelines.

Table 2. Application Processing Guidelines

PA Action	Residential Systems	Non-Residential Systems
Reservation Issued	30 days	60 days
ICF Claim Processed (no inspection)	30 days	60 days
ICF Claim Processed (with inspection)	60 days	90 days
Incentive Paid after ICF claim approval	30 days	30 days

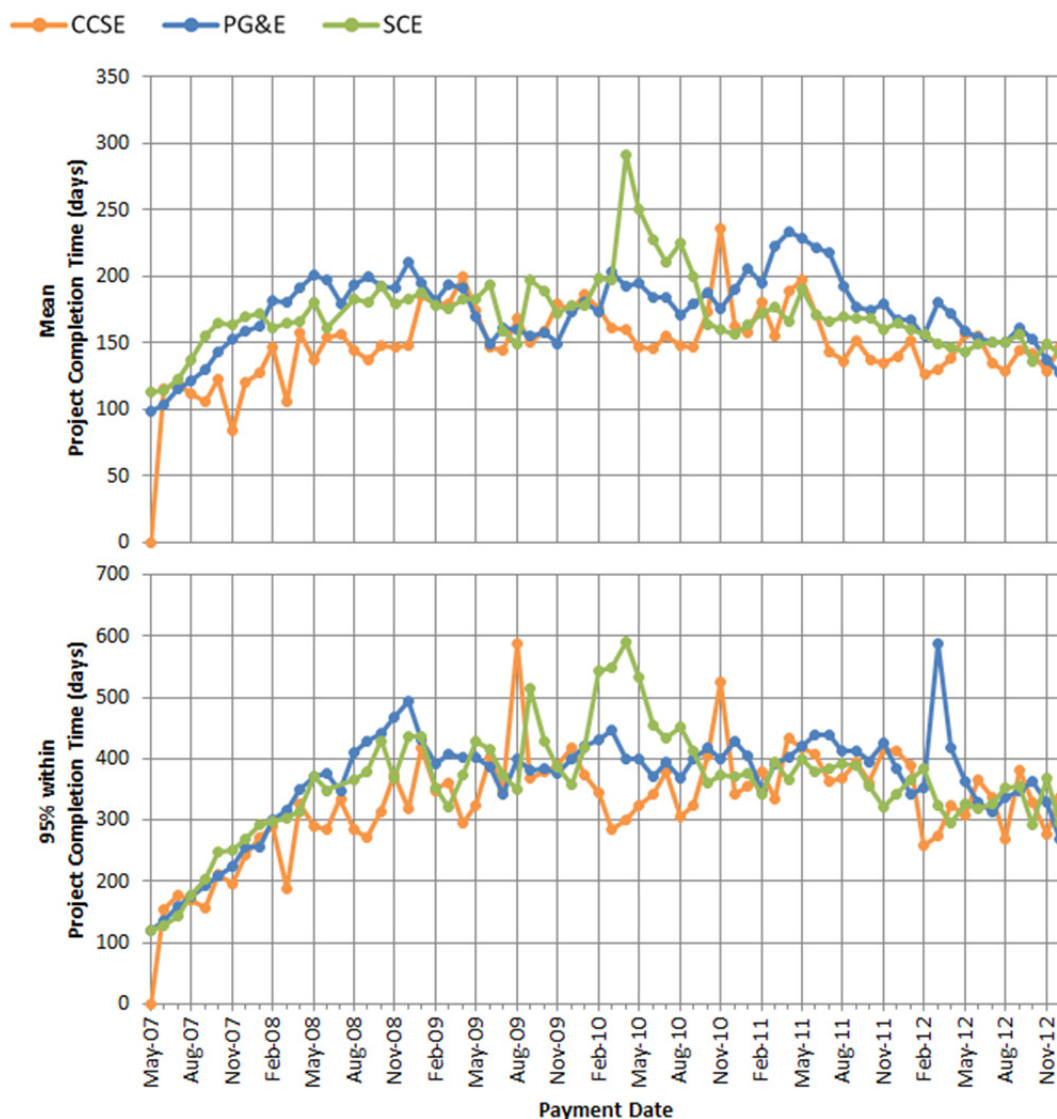
Source: D.11-07-031, p. 24.

2.3 Real-time Tabular Data

The six metrics described in Section 2.1 are available and updated every Wednesday on California Solar Statistics at: www.californiasolarstatistics.ca.gov

2.4 Graphics for CSI Residential and Non-Residential Program Metrics

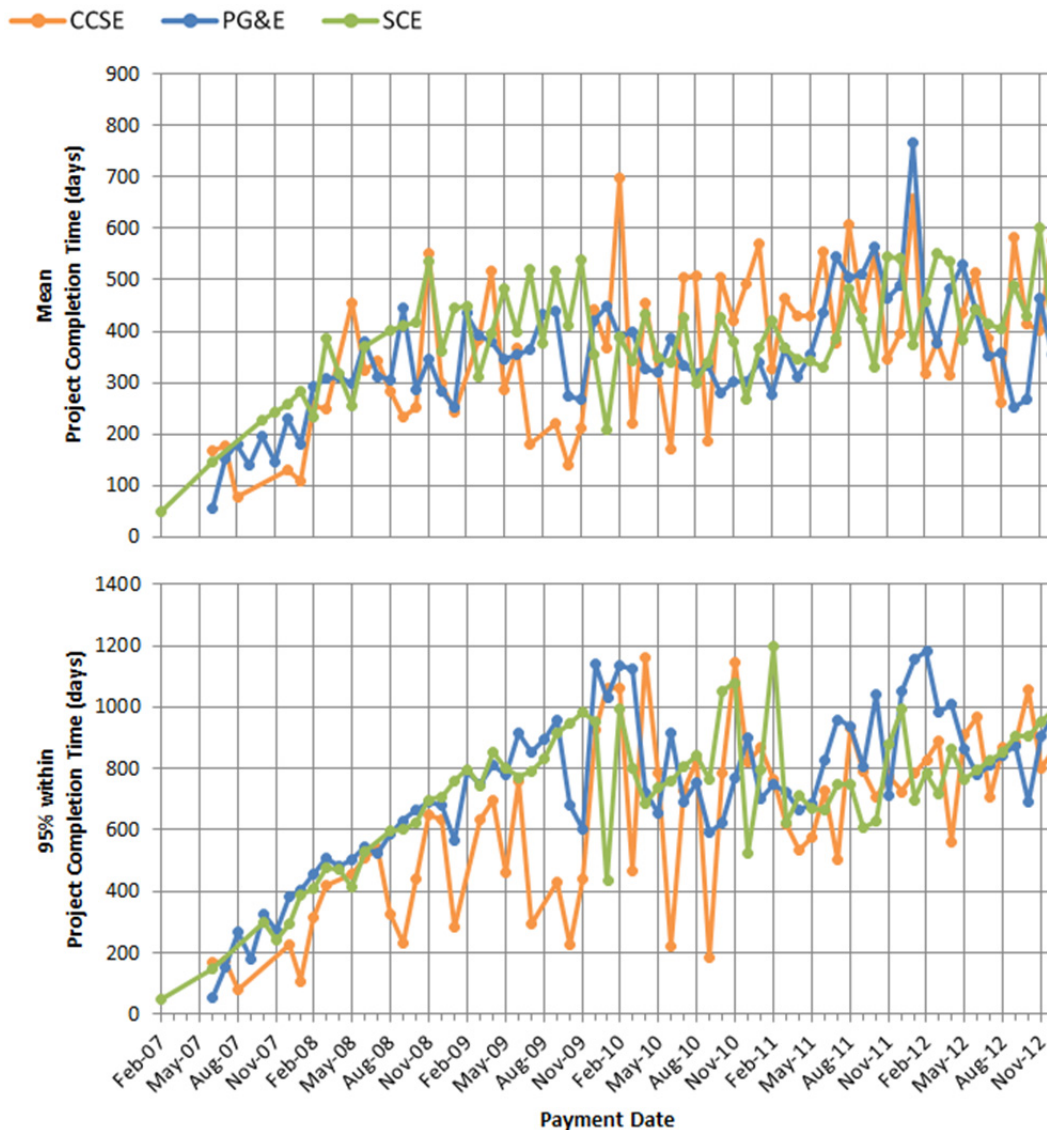
Figure 1. Residential Project Completion Time



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

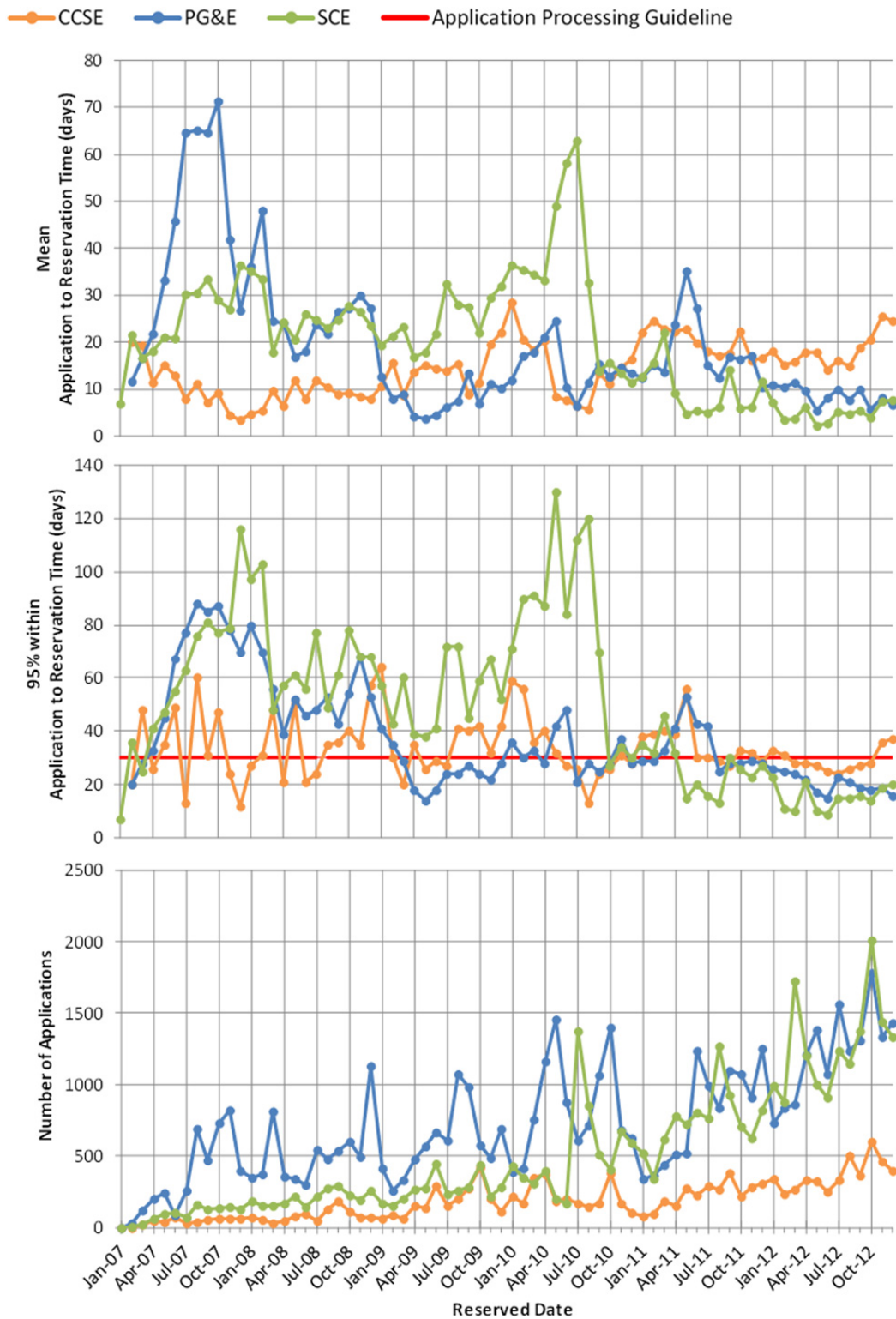
Figure 2. Non-Residential Project Completion Time



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

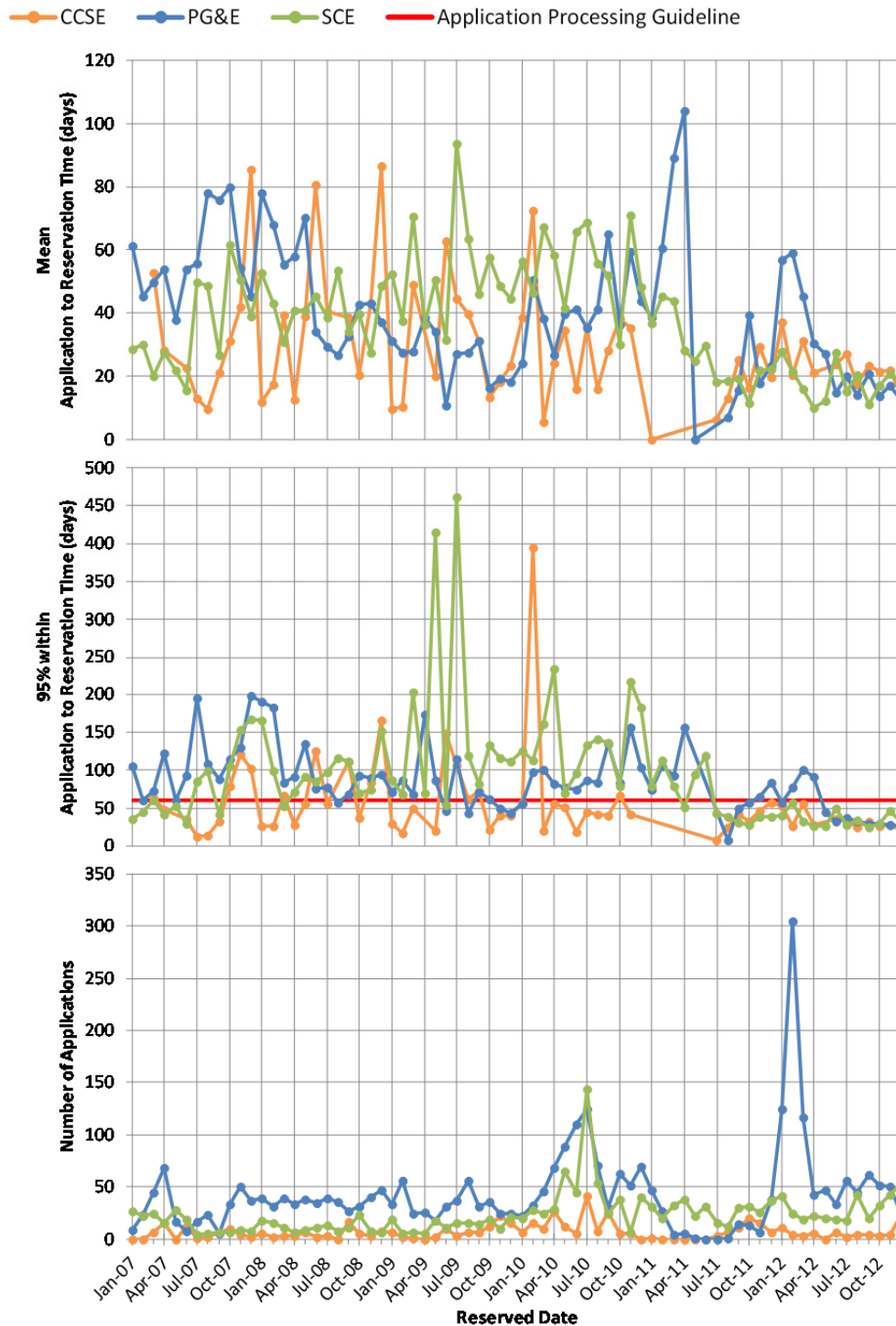
Figure 3. Residential Application to Reservation Time



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric. Number of applications represents total number of applications reserved in a given month.

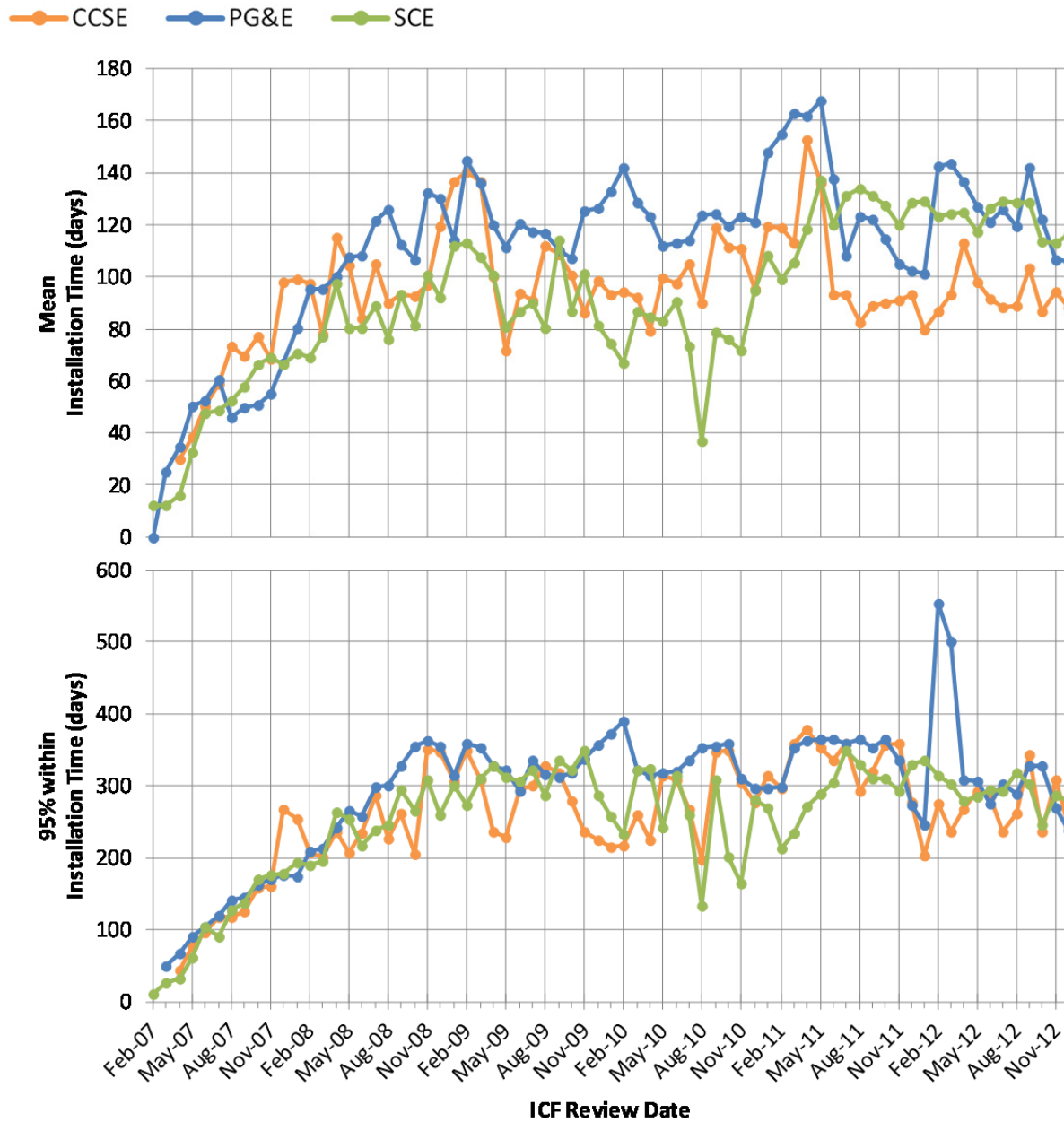
Figure 4. Non-Residential Application to Reservation Time



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

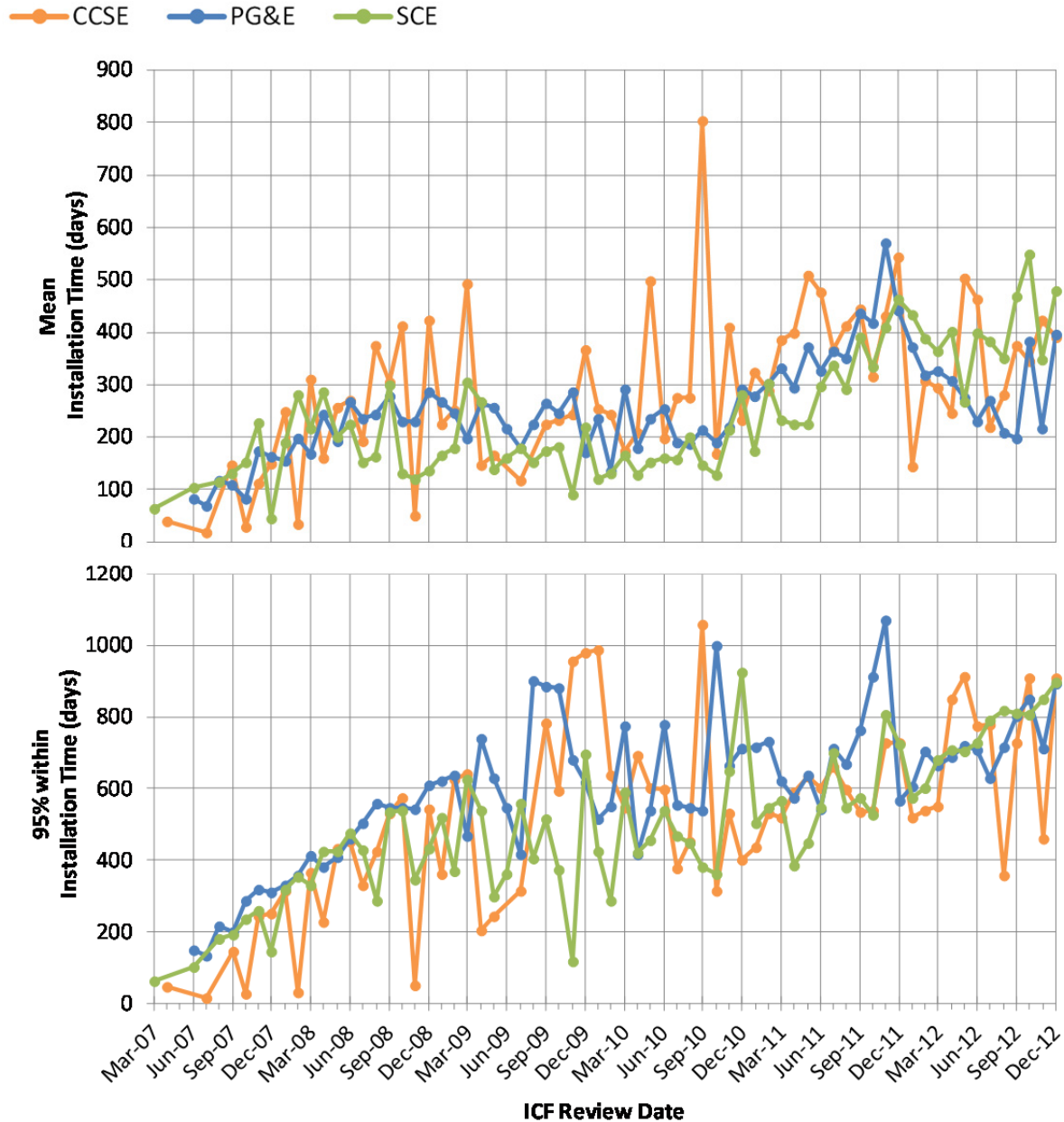
Figure 5. Residential Installation Time



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

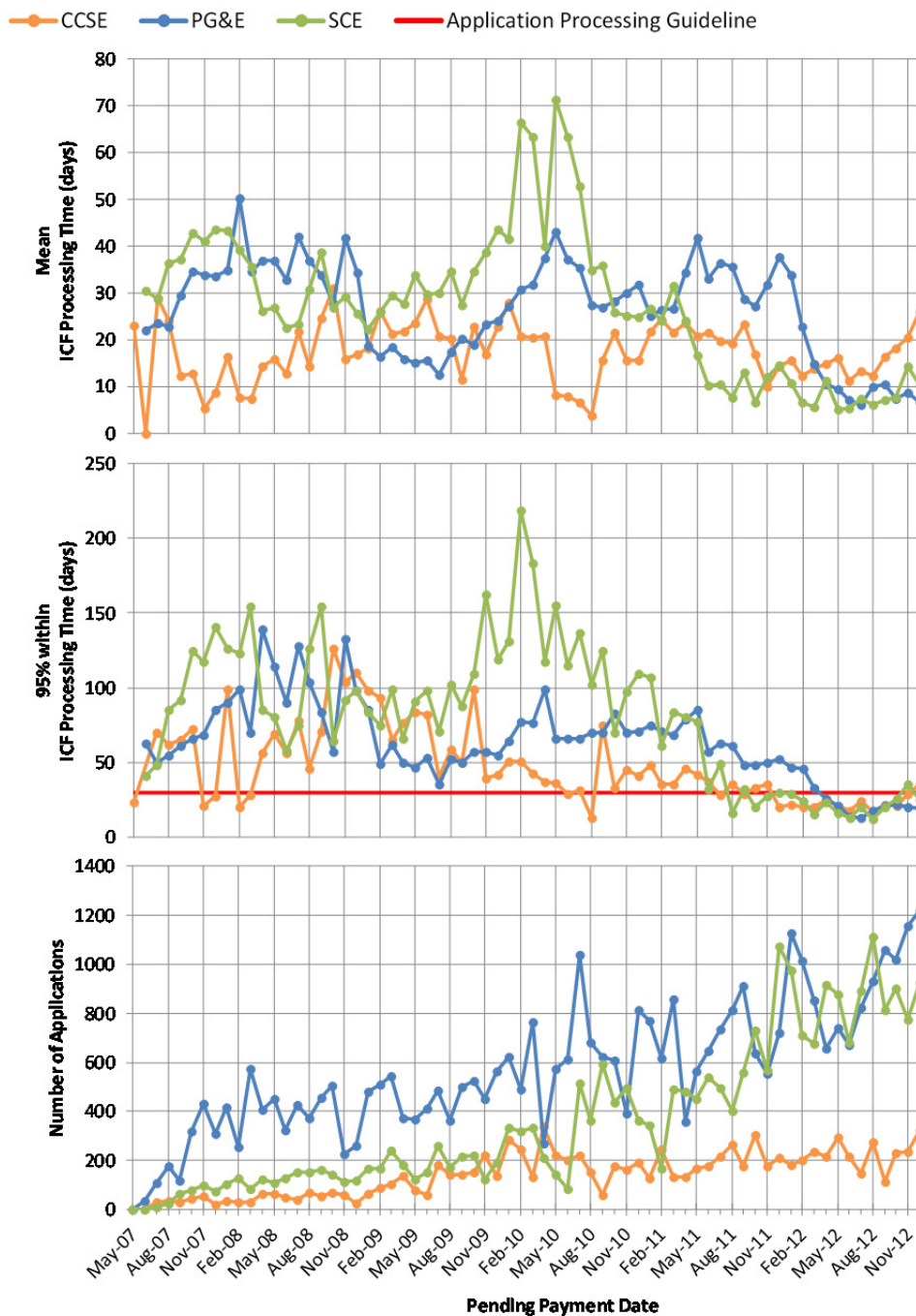
Figure 6. Non-Residential Installation Time



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

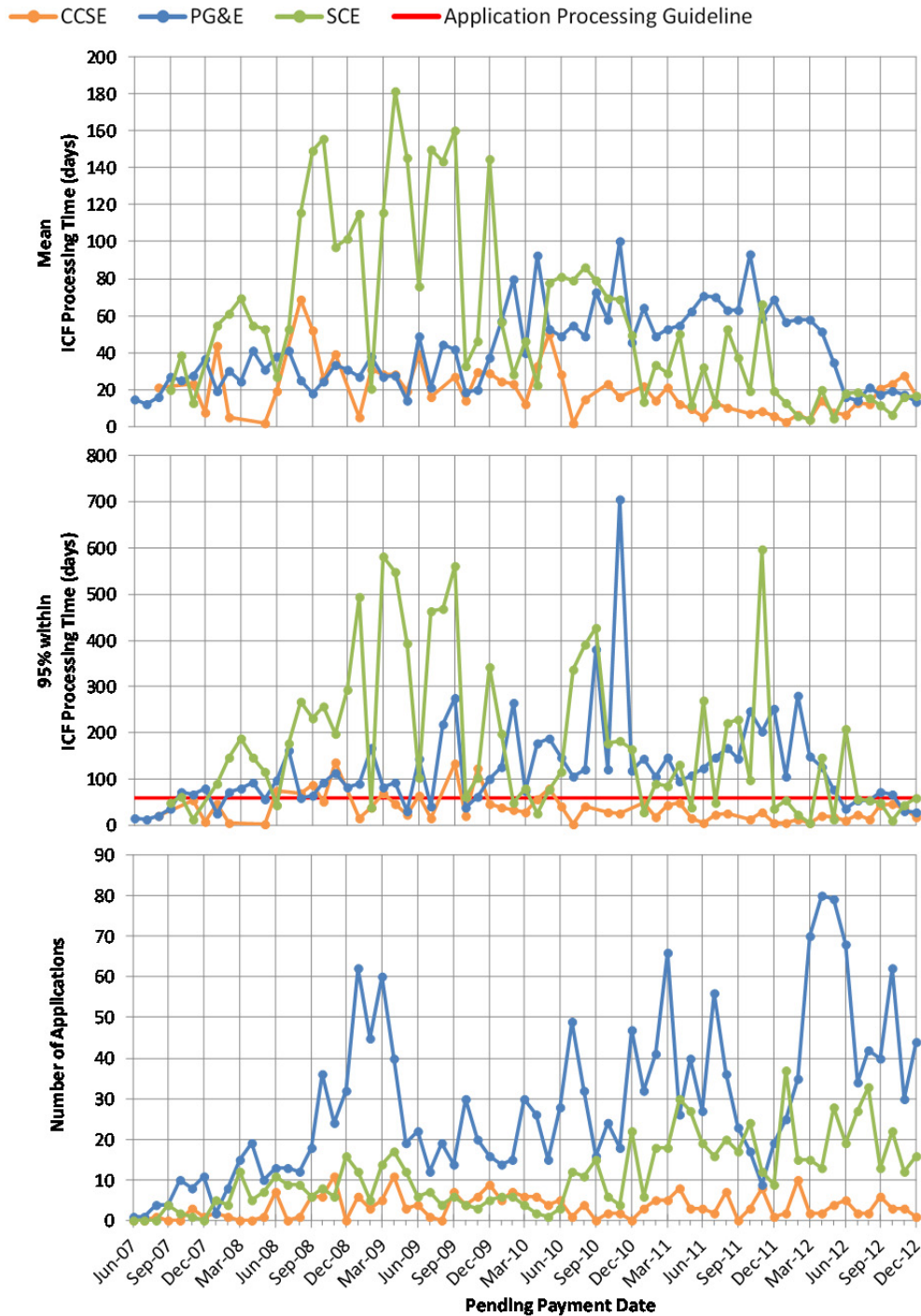
Figure 7. Residential ICF Processing Time without Inspection



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric. Number of applications represents total ICF applications processed to pending payment in a given month.

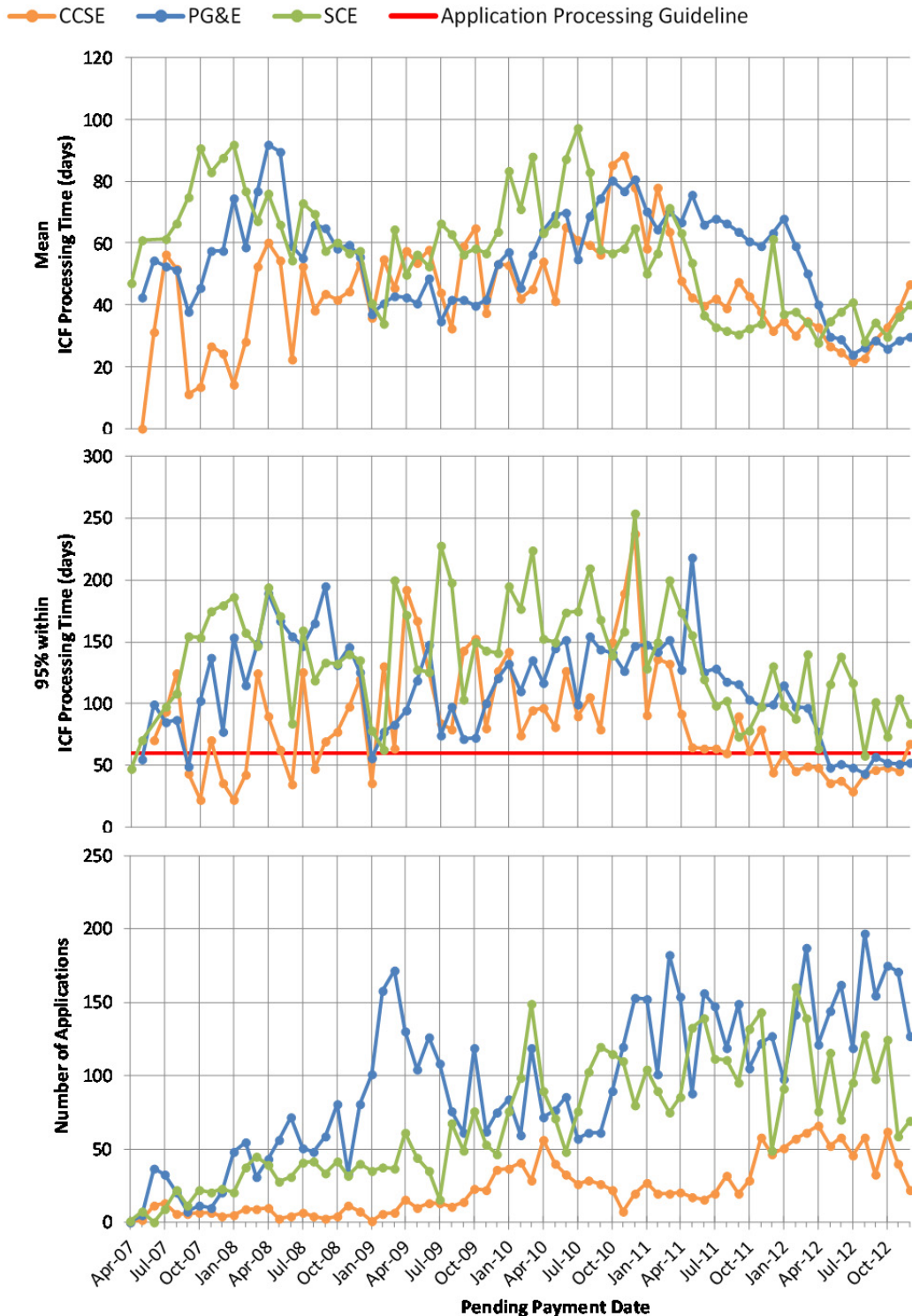
Figure 8. Non-Residential ICF Processing Time without Inspection



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

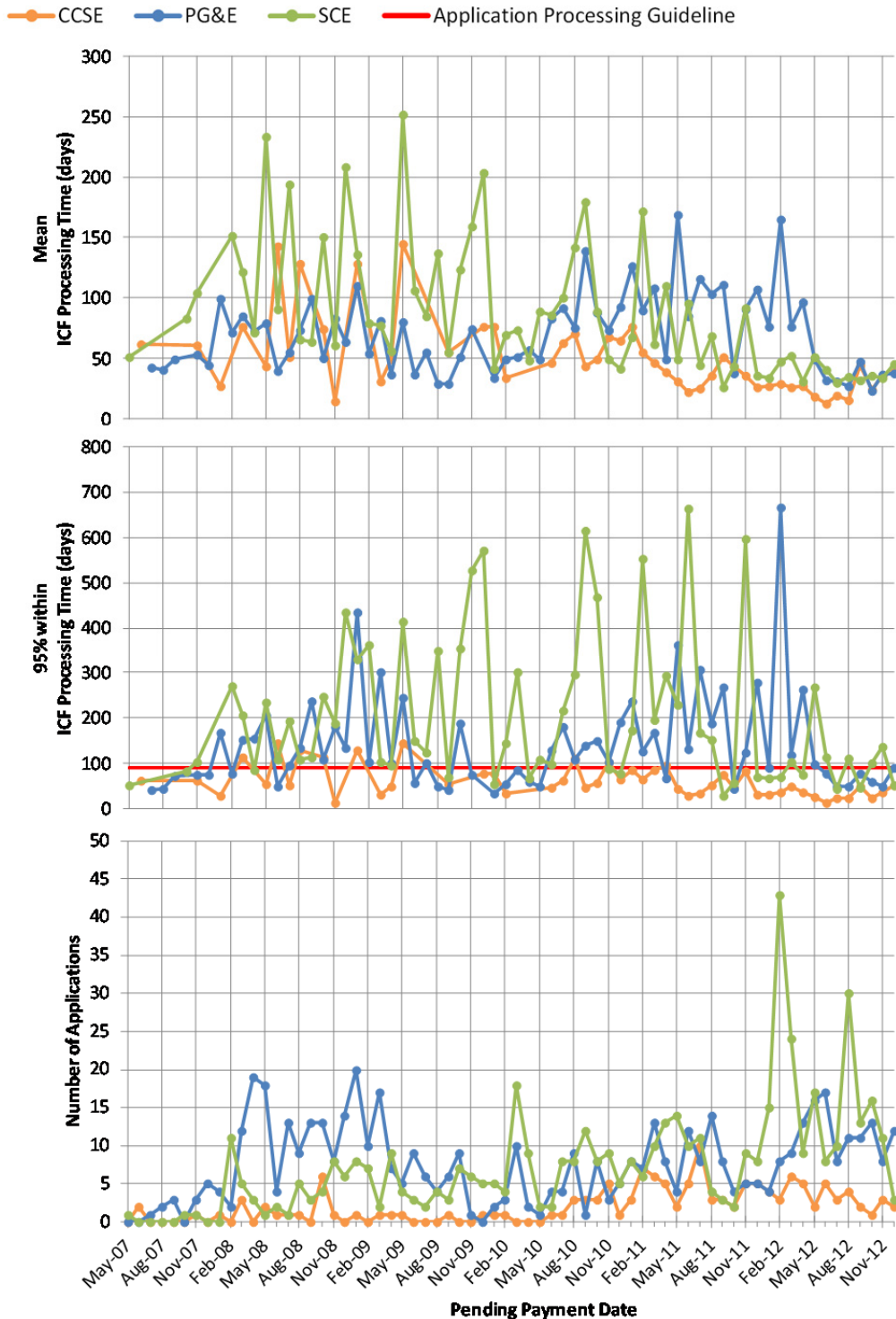
Figure 9. Residential ICF Processing Time with Inspection



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

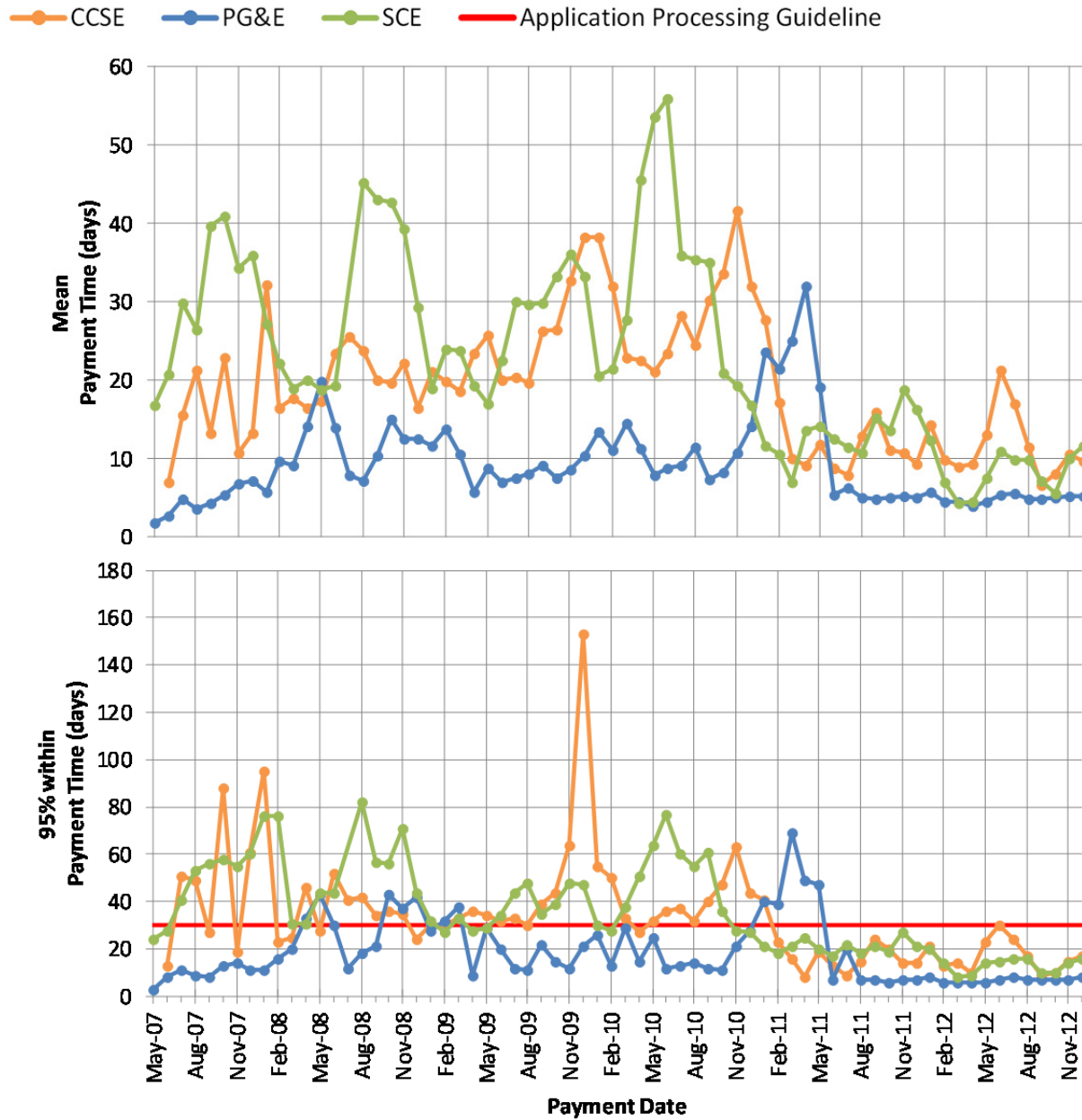
Figure 10. Non-Residential ICF Processing Time with Inspection



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

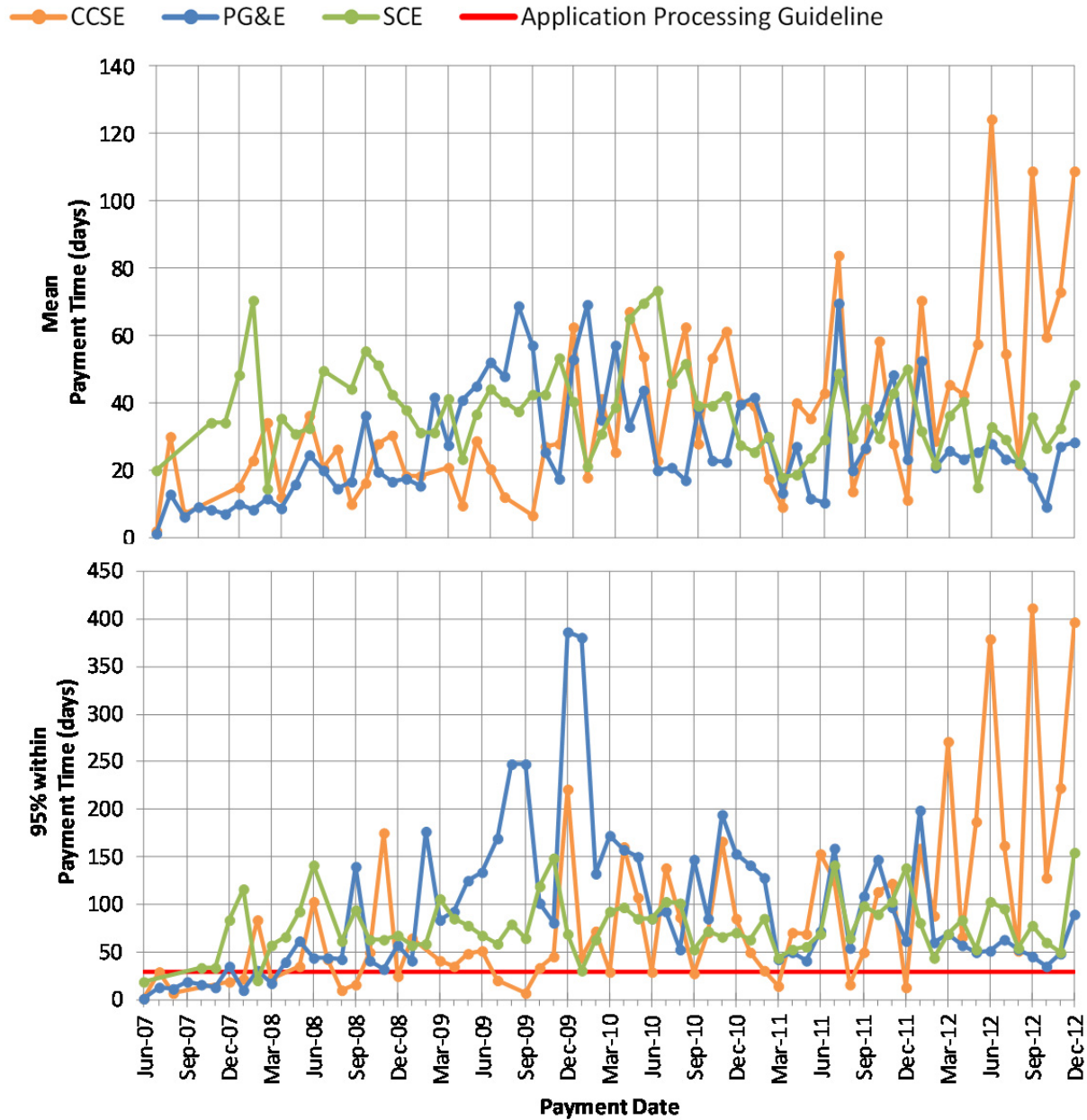
Figure 11. Residential Payment Time



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

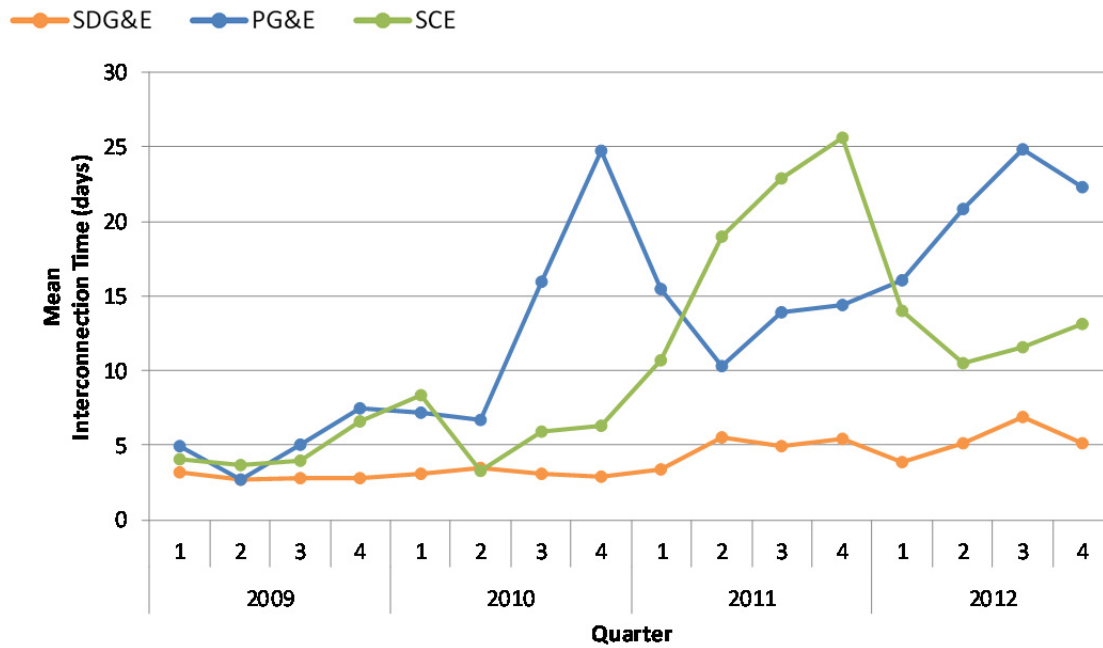
Figure 12. Non-Residential Payment Time



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

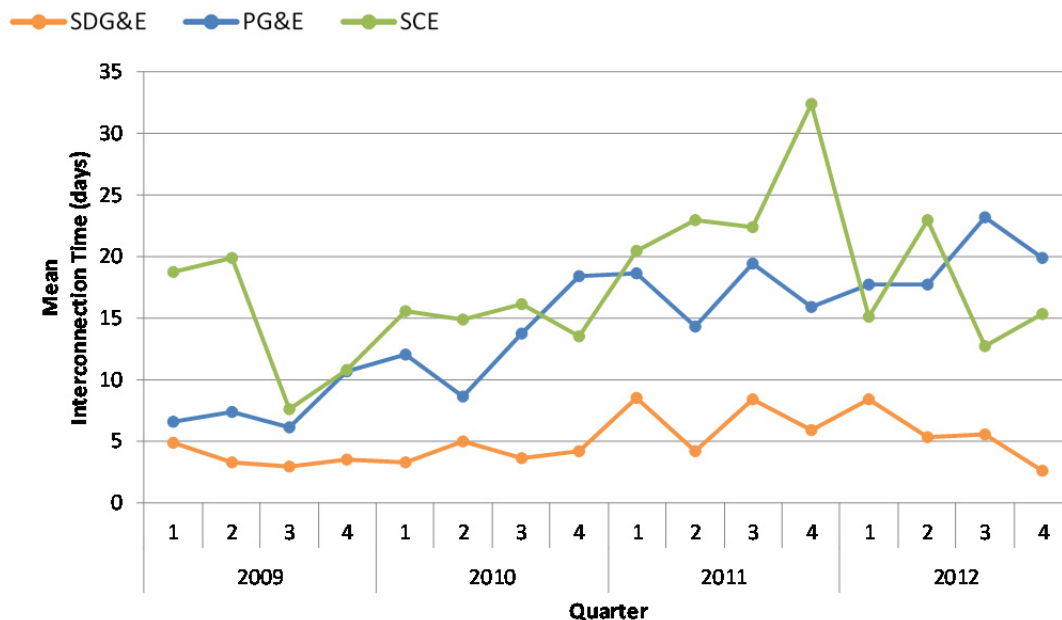
Figure 13. Residential Interconnection Time



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

Figure 14. Non-Residential Interconnection Time



Source: Data is from California Solar Statistics at: www.californiasolarstatistics.ca.gov.

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

2.5 Factors Affecting Administrative Performance

The following list describes the factors affecting administrative performance from application to reservation. Applications for which the PA takes more than 60 days to grant a reservation typically have a problem. Problems encountered in these applications include, but are not limited to:

- Mailing address is different from the project site address
- Missing signatures
- Missing or incomplete documentation
- Slow customer responsiveness
- Staffing short-fall¹
- Increase in residential application volume²
- Approaching the end of incentive funding for residential systems³

The following list describes the factors affecting administrative performance during incentive claim processing. Applications for which the PA takes more than 90 days to process the incentive claim typically have a problem. Problems encountered with applications at the ICF stage include, but are not limited to:

¹ Specific to CCSE's territory.

² Specific to CCSE's territory.

³ Specific to CCSE's territory.

- Revised EPBB not submitted to reflect changes in installed equipment
- For inspected projects, slow customer responsive on scheduling appointments
- Performance Meter for PBI projects not set up
- Incomplete or missing data about Performance Data Provider (PDP)
- Host customer unaware of the need for a CSI inspection
- Failed meter or system inspection
- Missing or incomplete documentation

2.6 Issues Faced by the CSI Administrators and Interconnection Departments

The CSI administrators and Interconnection departments experienced a record number of applications during the past year. The application volume was higher than forecast, despite the declining CSI incentive levels. For example, in PG&E's territory on average there were over 17 percent more applications processed compared to the same month from the previous year.

Additionally, over the past year, SCE's interconnection department was faced with 1) Higher volume of applications, 2) Transition to a new software platform over the summer that led to a slower turnaround time through the fall, and 3) ongoing efforts to convince installers to submit interconnection paperwork prior to system installation.

3 Program Dropouts

The report shows, by quarter for 2007-2012, by each PA's Res and Non-Res program, the MW and percentage of projects dropped out. Dropouts are presented using two different definitions:

- MW dropped out divided by MW reserved in that quarter (where the MW dropped out and the MW reserved are assigned to quarters based on when they were reserved); and
- MW dropped out divided by the sum of MW dropped out and completed (where the MW are assigned to quarters based on when they dropped out). Note that for the first method the values will change, as more projects which were reserved in that quarter drop out over time, whereas for the second method no subsequent change to the statistics should occur.

Table 3. MW Dropped Out Divided by MW Reserved

%Drop by Quarter Reserved uses the Working Data Set from 3/31/2013

Year/ Quarter	CCSE				SCE				PG&E			
	Residential		Non-Residential		Residential		Non-Residential		Residential		Non-Residential	
	MWd ²	%drop by quarter reserved	MWd ²	%drop by quarter reserved	MWd ²	%drop by quarter reserved	MWd ²	%drop by quarter reserved	MWd ²	%drop by quarter reserved	MWd ²	%drop by quarter reserved
2007 Q1	0.04	28%	0.00	0%	0.01	8%	4.12	16%	0.04	5%	3.27	14%
2007 Q2	0.04	6%	0.51	6%	0.24	15%	8.11	28%	0.11	5%	4.48	19%
2007 Q3	0.02	3%	0.76	28%	0.22	11%	8.13	88%	0.52	7%	1.22	37%
2007 Q4	0.07	9%	1.41	71%	0.24	11%	3.66	54%	0.98	11%	9.50	47%
2008 Q1	0.13	16%	1.47	68%	0.24	9%	13.18	50%	0.72	10%	9.36	44%
2008 Q2	0.01	1%	0.45	42%	0.35	12%	0.57	26%	0.54	11%	3.11	22%
2008 Q3	0.08	5%	2.40	45%	0.45	11%	1.52	31%	0.60	9%	1.23	11%
2008 Q4	0.06	5%	1.01	38%	0.52	14%	0.04	3%	1.52	14%	8.22	45%
2009 Q1	0.10	10%	0.00	4%	0.36	13%	0.63	20%	0.65	13%	7.10	24%
2009 Q2	0.11	4%	0.00	0%	0.76	14%	0.03	0%	0.45	6%	1.29	21%
2009 Q3	0.21	7%	0.13	5%	0.28	7%	0.11	2%	1.41	10%	2.79	31%
2009 Q4	0.41	10%	2.40	15%	0.35	8%	3.39	28%	0.72	8%	0.28	3%
2010 Q1	0.19	6%	2.41	48%	0.37	7%	3.80	29%	0.67	9%	3.63	34%
2010 Q2	0.75	18%	2.19	23%	0.39	10%	8.89	18%	3.50	17%	6.73	9%
2010 Q3	0.27	11%	0.60	5%	1.62	11%	22.96	31%	1.48	12%	8.70	19%
2010 Q4	0.48	15%	0.98	36%	1.06	12%	6.82	29%	2.23	16%	2.75	14%
2011 Q1	0.15	9%	0.00	0%	2.14	24%	5.89	18%	1.09	18%	0.46	5%
2011 Q2	0.15	5%	0.00	0%	1.22	11%	5.37	25%	0.79	8%	0.00	0%
2011 Q3	0.41	9%	0.00	0%	2.24	14%	0.69	9%	1.33	10%	0.02	2%
2011 Q4	0.22	6%	0.19	4%	1.60	13%	0.19	2%	1.70	11%	0.29	4%
2012 Q1	0.32	7%	0.05	1%	2.79	14%	0.08	1%	1.20	11%	3.26	3%
2012 Q2	0.05	1%	0.00	0%	0.66	4%	0.00	0%	0.16	1%	3.01	9%
2012 Q3	0.01	0%	0.03	6%	0.41	2%	0.06	0%	0.08	0%	0.03	0%
2012 Q4	0.01	0%	1.02	15%	0.17	1%	0.88	4%	0.10	0%	0.00	0%
Total	4.29	6%	18.00	19%	18.72	9%	99.15	23%	22.59	9%	80.73	15%

2 MWd defined as MW dropped by reserved date

Table 4. MW Dropped Out Divided by the Sum of MW Dropped Out and Completed

%Drop by Quarter Dropped Out uses the Working Data Set from 12/31/2012

Year/ Quarter	CCSE				SCE				PG&E			
	Residential		Non-Residential		Residential		Non-Residential		Residential		Non-Residential	
	MWd ¹	%drop by quarter dropped out	MWd ¹	%drop by quarter dropped out	MWd ¹	%drop by quarter dropped out	MWd ¹	%drop by quarter dropped out	MWd ¹	%drop by quarter dropped out	MWd ¹	%drop by quarter dropped out
2007 Q1	0.00	0%	0.00	0%	0.00	0%	0.15	83%	0.00	0%	0.00	0%
2007 Q2	0.00	0%	0.00	0%	0.00	11%	2.56	100%	0.00	0%	0.43	98%
2007 Q3	0.00	1%	0.13	93%	0.01	4%	1.45	100%	0.02	1%	2.08	89%
2007 Q4	0.00	0%	0.09	62%	0.01	1%	0.77	63%	0.04	1%	0.88	34%
2008 Q1	0.02	3%	0.28	50%	0.02	1%	1.26	29%	0.10	2%	4.38	60%
2008 Q2	0.01	1%	0.83	50%	0.02	1%	4.58	31%	0.19	3%	8.85	59%
2008 Q3	0.01	2%	0.35	53%	0.12	7%	8.63	59%	0.17	3%	2.69	27%
2008 Q4	0.06	8%	0.16	4%	0.14	4%	5.15	38%	0.99	16%	2.90	41%
2009 Q1	0.06	6%	0.54	22%	0.06	2%	0.92	10%	0.07	1%	8.93	36%
2009 Q2	0.11	7%	0.61	14%	0.71	21%	7.81	45%	0.83	11%	2.13	8%
2009 Q3	0.04	3%	0.59	43%	0.53	14%	3.74	33%	1.40	16%	9.89	48%
2009 Q4	0.11	4%	2.28	77%	0.50	11%	0.50	7%	0.27	3%	0.93	16%
2010 Q1	0.13	4%	0.77	27%	0.20	4%	2.47	57%	0.95	9%	2.45	21%
2010 Q2	0.11	3%	2.90	75%	0.12	3%	0.68	11%	1.01	10%	5.65	41%
2010 Q3	0.07	3%	2.08	49%	0.32	4%	0.70	21%	0.30	3%	1.88	19%
2010 Q4	0.24	9%	1.23	27%	0.57	6%	14.57	53%	1.65	15%	1.85	22%
2011 Q1	0.36	10%	0.22	27%	1.49	23%	10.19	66%	0.57	5%	4.52	28%
2011 Q2	0.68	23%	0.79	10%	0.51	6%	9.52	39%	2.83	19%	2.35	41%
2011 Q3	0.31	11%	2.22	50%	1.45	17%	4.01	21%	2.88	19%	1.44	3%
2011 Q4	0.59	13%	0.10	4%	0.96	8%	6.12	32%	1.84	16%	0.87	6%
2012 Q1	0.21	5%	0.17	3%	2.90	16%	5.35	16%	1.27	8%	6.67	24%
2012 Q2	0.22	5%	0.11	3%	1.10	9%	2.96	11%	0.84	7%	2.60	5%
2012 Q3	0.38	9%	0.47	22%	2.10	11%	2.75	16%	0.69	5%	0.01	0%
2012 Q4	0.26	16%	0.07	9%	3.11	19%	0.56	2%	1.50	8%	4.55	17%
Total	3.98	8%	16.98	26%	16.97	11%	97.40	30%	20.39	9%	78.92	21%

1 MWd defined as MW dropped by drop date

4. CSI Program Trainings

Each of the PAs regularly offers training for both customers and solar installers in the CSI Program regarding the benefits and technical details of solar in general. In 2012, the CSI PAs held 180 trainings and trained over 5,700 attendees.

Table 5. Number of Trainings by Program Administrator

	PGE		SCE		CCSE	
	2012	2011	2012	2011	2012	2011
Number of attendees	,2951	3,350	2,124	2,781	669	847
Number of CSI Program Trainings held	81	207	64	73	35	44

Source: CSI Program Administrators.

4.1 PG&E Training Offerings

The PG&E CSI Group, in collaboration with the Energy Centers, offered an extensive array of solar classes to both contractors and the general public. These included full-day live classes, many of which were simulcast, as well as one-hour webinars. The bulk of the live classes were in the Pacific Energy Center in San Francisco or the Energy Training Center in Stockton, but there were also classes offered in the following places: Eureka, Tulare, Bakersfield, San Luis Obispo, San Mateo, San Jose, Fresno, Santa Cruz, Santa Rosa, Napa, Berkeley, San Leandro, Auburn, Clear Lake, and other communities.

The attendance in 2012 leveled off a bit from 2011 as the contractor community and general public became more educated in the target areas. In response to Sector Strategy directives we are targeting classes to specific groups, including contractors, building inspectors, and those in low-income areas. We are continually developing classes to address emerging technologies that can be connected with solar, such as heat pumps and battery storage, along with content areas integral to the widespread adopting of solar, such as smart grid. PG&E is also stepping up efforts to provide more Net Energy Metering and Billing webinars to the general public. Below is a list of the classes and webinars that PG&E offers.

4.1.1 For Contractors and the General Public

Basics of Photovoltaic (PV) Systems for Grid-Tied Applications: An introduction to PV systems basics and overview of technical, economic and project evaluation of grid-connected PV projects.

Photovoltaic (PV) Site Analysis and System Sizing: an intermediate class that was for anyone interested in understanding the specific issues associated with PV site analysis and system sizing. **Introduction to Photovoltaic (PV) System Financing:** provided overview of solar electric (PV) system costs and approximate savings for residential systems as well as information on available incentives.

Inspecting PV Systems for Code Compliance: an advanced class that covered all issues pertaining to inspecting and permitting of photovoltaic grid-tied systems in all sectors, including commercial, industrial, small business, multifamily, and residential.

Solar Water Heating Systems Basics: provided an overview of the design, specification, and installation aspects of Solar Water Heating systems for both commercial and residential applications.

CSI-Thermal Workshop: As a core part of PG&E's ongoing efforts, PG&E continued to offer monthly CSI-Thermal Program Workshops for contractors and self-installers throughout the service territory. The workshops are vital in conveying program requirements and ultimately help ensure contractors are better prepared to submit CSI-Thermal Program paperwork. This workshop is required for anyone looking to become an eligible installer within the CSI-Thermal Program.

Solar Water Heating Systems for Homeowners: a basic class that provided an overview of the design, specification, and installation aspects of SWH systems for residential applications.

Inspecting Solar Water Heating Systems: an advanced class that detailed all of the issues pertaining to inspecting and permitting of SWH systems in all sectors, including commercial, industrial, small business, multifamily, and residential. This workshop is designed for building inspectors, plan checkers, solar installers, designers, engineers, and architects who wish to stay current on the latest code compliance issues to help facilitate safe and long-lasting SWH systems.

Solar Water Heating - Advanced Commercial Systems: an advanced class that focused on key aspects of large-scale SWH systems for commercial applications.

4.1.2 Webinars Open to the General Public

Renewable Energy Basics: covered the essential knowledge needed for people to be effective in furthering renewable energy, whether as entrepreneurs, customers, advocates, regulators, or simply informed citizens. Topics covered included terms and concepts such as net metering, feed-in tariffs, grid parity, renewable energy credits,

smart grid, and others, primarily focusing on solar and wind systems but applicable to all.

Solar System Safety and Maintenance for Homeowners
Solar System Safety and Maintenance for Installers
Financial Options for Going Solar

California Solar Initiative (CSI) Application – How to Efficiently Apply for CSI

Incentives: a walkthrough of PowerClerk detailing the application process for the CSI program. It included tips to ensure that applications were always in good order and how to avoid the common mistakes that would delay a reservation and/or payment.

Consumer Protection - Before and After Purchasing a Solar PV System: provided information on how to locate a solar contractor, compare prices that are offered by different contractors and how to protect against fraud.

Integrating Energy Efficiency and Renewables in Home Retrofits: provided a whole-system approach to homes or buildings, performance and how it ties into energy efficiency.

New Solar Homes Partnership Program Application Process: provided an overview of the New Solar Homes Partnership (NSHP) program, including incentives offered and the requirements.

Using the Green Button for Solar: an overview of the process of using the "Green Button" to run customer usage info.

Understanding Your Residential Net Energy Metering Bill: an overview of the billing process for solar Net Energy Metered customers included what customers can expect each month, when payment is due, and how to read the solar bill and statement.

How Net Energy Metering (NEM) Works: provided an overview of PG&E's NEM Tariffs. The webinar also covered how NEM works.

Making your Solar Net Energy Metering Interconnection Application and Process Easier: provided an overview of PG&E's Standard NEM interconnection process, included helpful resources and tips to ensure quick turnaround times.

Making your Rule 21 Interconnection Application and Process Easier: provided an overview of PG&E's Rule 21 Interconnection process for technologies such as combined heat and power systems and fuel cells. It included helpful resources and tips to ensure quick turnaround times.

4.2 SCE Training Offerings

SCE continues to offer classes geared toward contractors as well as non-residential and residential customers. During the 2012, SCE reached 350 contractors through 12 “CSI Contractor Solar Classes,” including participants who joined via Webinar; 178 commercial customers through 9 “CSI Commercial Solar Workshops”; 529 residential customers through 17 Homeowner Solar Classes (HSC); which included 5 pilot Webinars; 998 residential customers through 20 Solar Connection Events; and six CSI Thermal training classes with a total of 69 attendees.

The subject matter SCE presents in its classes is updated as program changes dictate. SCE also makes adjustments based on feedback received from attendees.

4.2.1 Intro to CSI Classes

The “Contractor Solar Class” is a course designed for solar contractors, self-installers, managers and PV owners, and features new and updated information on the CSI Program. During the course discussion, information is given to attendees on the following topics: (i) how to participate in the program; (ii) system basics, including the different types of solar systems, metering, monitoring, site and equipment requirements; and (iii) PowerClerk. In addition, SCE enhanced the Interconnection information provided during this course beginning in 2009. Contractors can register online at www.sce.com/ctac.

4.2.2 Homeowner Solar Classes

SCE’s HSC classes are 90-minute, easy-to-understand sessions that provide the basics of how residential customers can “go solar” without the “techy” jargon so often used and confusing to potential solar customers. For more information, see: www.sce.com/solartraining

4.2.3 Commercial Solar Workshop

The Commercial Workshop curriculum was specifically geared toward Energy and Facility Managers in SCE’s nonresidential customer segment, and the course content included a CSI Program Overview, How Solar Systems Work, Application and Reservation Process, CSI Eligibility Requirements, Incentive Amounts and Structure, EPBB Calculator, Interconnection and Online Databases. Energy Managers also learned how solar energy systems can help lower their operating costs, which helps to add more “green” to their business’ bottom-line cost and improves their company’s reputation for environmental stewardship. Customers can register online at: www.sce.com/ctac.

4.2.4 Solar Connection Events

The goal of these unique events remains unchanged: present solar basics and to bring interested residential customers together with solar contractors to determine their home’s potential for solar electric generating systems. For more information, see: www.sce.com/solartraining.

4.2.5 CSI Thermal Contractor & Self-Installer Training

SCE's Thermal Workshop is a required introductory course for contractors, self-installers and applicants interested in participating in the CSI Thermal program. The class is designed to provide a thorough understanding of the program, its requirements and the application process. An overview of solar water heating technologies is also provided. For more information, see: www.sce.com/csithermal.

4.3 CCSE Training Offerings

CCSE continues to offer classes geared toward contractors as well as non-residential and residential customers. In 2012 CCSE reached over 651 homeowners and contractor through in person workshops in addition to offering the CSI Application Process workshop via WebEx to reach more contractors. Trainings are performed by CCSE staff and or outside speakers when necessary. 2012 trainings were marketed in CCSE and CSI newsletters, through the online calendar as well as in email blasts and other events. For more information see: www.energycenter.org/outreach-a-education

Homeowner Targeted Workshops:

4.3.1 Solar for Homeowners 1: Getting Started

Tailored to homeowners interested in going solar, this workshop will get them started and will outline how California Solar Initiative (CSI) incentives and tax credits can greatly offset installation costs.

4.3.2 Solar for Homeowners 2: Be a Smart Solar Customer

Informed consumers can save themselves time and money by doing their homework before picking a solar contractor. After learning the fundamentals of residential installations in Solar for Homeowners 1, they can attend this follow-up workshop to learn the ins and outs of choosing a solar company that operates in an ethical and trustworthy fashion.

4.3.3 Intro to PV Financing

Participants can discover the various financing options available such as power purchase agreements, leases, purchase and the value proposition of each option.

4.3.4 Economics of Solar

Explores the different factors that affect whether a solar PV system can provide savings for an individual home owner.

4.3.5 Green Tax Benefits 2012

Explains the tax implications for installing residential solar and how tax benefits can play a role in driving down the cost of alternative fuel vehicles and charging equipment and changes for 2012. Lead by Walter Wang adjunct professor of energy taxation and policy at University of San Diego School of Law.

Contractor Targeted Workshops:

4.3.6 CSI Application Process Made Easy

This workshop outlines the entire CSI application process – from the reservation request to the incentive award – and provides an explanation of all required documentation as well as a demonstration of the online application.

4.3.7 Passing the CSI Inspection Protocol

This workshop is designed for contractors and self-installers who would like to learn about the CSI inspection protocol.

5 Net Energy Metering

The California Public Utilities Code Section 2827 establishes NEM for solar and small wind customer-generators. NEM information for each IOU's service territory is included in this section of the report. The NEM data is updated monthly and available at:

http://www.californiasolarstatistics.com/reports/data_annex/

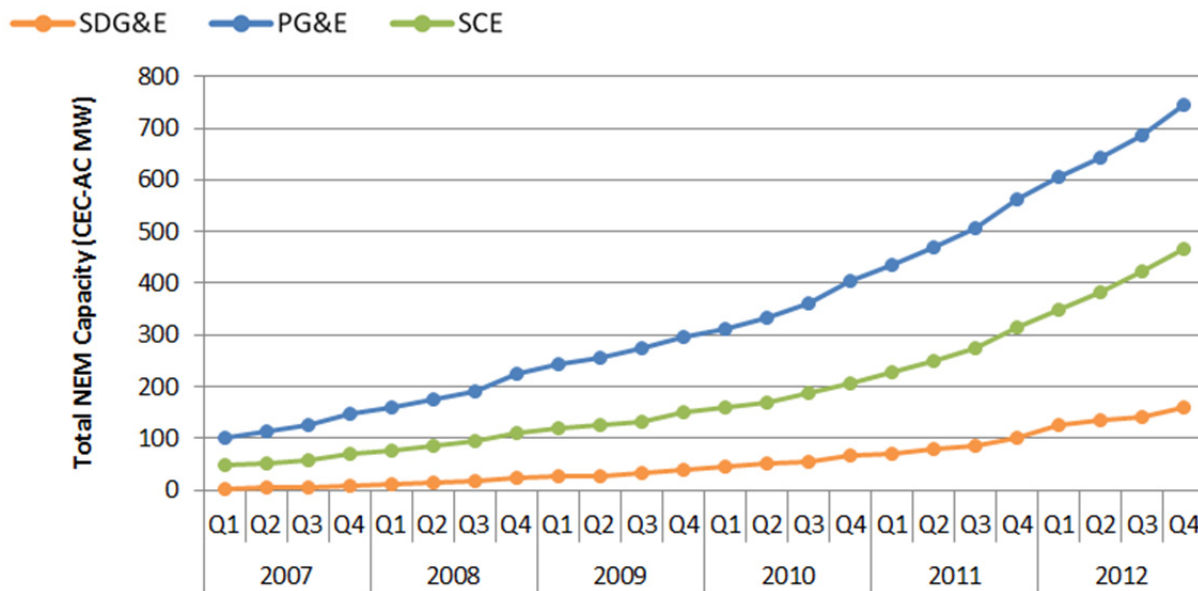
Table 6. NEM Capacity, Customers and Percentage of Aggregate Customer Peak Demand as of December 31, 2012

Section	Question ²	PG&E	SCE	SDG&E
5.b.1	Number of NEM customers in the service territory.	77,737	44,022	20,990
5.b.2	Number of those NEM customers which are solar generators.	77,511	43,592	20,951
5.b.3	Number of those NEM solar generators who are participants in the CSI program. ¹	52,324	30,819	12,058
5.b.4	Total generating capacity of NEM customer-generators.	746.5	465.13	158.7
5.b.5	Total generating capacity of solar NEM customer-generators.	740.5	441.31	158.6
5.b.6	Total generating capacity of solar NEM customer-generators who are participants in the CSI program. ¹	599	359.61	109.6
5.b.7	Percentage of aggregate customer peak demand represented by all NEM.	1.55%	1.04%	1.31%
5.b.8	Percentage of aggregate customer peak demand represented by solar NEM.	1.54%	0.98%	1.31%
5.b.9	Percentage of aggregate customer peak demand represented by CSI-participating solar NEM. ¹	1.24%	0.80%	0.90%

Table 7. NEM Capacity in MW and in Percent of Aggregate Customer Peak Demand by Quarter

Year	Quarter	SDG&E			PG&E			SCE		
		Cumulative Capacity Interconnected (CEC-AC MW)	NEM Capacity % (Coincident)	NEM Capacity % (Non-Coincident)	Cumulative Capacity Interconnected (CEC-AC MW)	NEM Capacity % (Coincident)	NEM Capacity % (Non-Coincident)	Cumulative Capacity Interconnected (CEC-AC MW)	NEM Capacity % (Coincident)	NEM Capacity % (Non-Coincident)
2007	Q1	2.5	0.05%	0.02%	101.6	0.49%	0.21%	48.0	0.21%	0.11%
	Q2	5.1	0.11%	0.04%	113.0	0.54%	0.23%	52.0	0.22%	0.12%
	Q3	6.5	0.14%	0.05%	126.2	0.60%	0.26%	59.0	0.25%	0.13%
	Q4	8.5	0.18%	0.07%	146.4	0.70%	0.30%	70.4	0.30%	0.16%
2008	Q1	10.1	0.22%	0.08%	159.8	0.77%	0.33%	76.3	0.33%	0.17%
	Q2	14.2	0.30%	0.12%	176.0	0.84%	0.37%	84.7	0.37%	0.19%
	Q3	17.3	0.37%	0.14%	191.8	0.92%	0.40%	95.0	0.41%	0.21%
	Q4	23.6	0.50%	0.19%	226.1	1.08%	0.47%	111.9	0.48%	0.25%
2009	Q1	25.8	0.55%	0.21%	243.2	1.16%	0.50%	120.0	0.52%	0.27%
	Q2	28.3	0.60%	0.23%	256.2	1.23%	0.53%	126.0	0.54%	0.28%
	Q3	31.8	0.68%	0.26%	273.5	1.31%	0.57%	132.0	0.57%	0.29%
	Q4	40.1	0.86%	0.33%	296.2	1.42%	0.61%	150.9	0.65%	0.34%
2010	Q1	45.3	0.97%	0.37%	313.1	1.50%	0.65%	160.5	0.69%	0.36%
	Q2	51.3	1.09%	0.42%	333.6	1.60%	0.69%	170.2	0.73%	0.38%
	Q3	56.0	1.19%	0.46%	360.2	1.72%	0.75%	187.3	0.81%	0.42%
	Q4	65.7	1.40%	0.54%	403.3	1.93%	0.84%	207.5	0.90%	0.46%
2011	Q1	71.4	1.52%	0.59%	436.9	2.09%	0.91%	227.4	0.98%	0.51%
	Q2	79.1	1.69%	0.65%	470.5	2.25%	0.98%	249.9	1.08%	0.56%
	Q3	86.3	1.84%	0.71%	505.9	2.42%	1.05%	274.3	1.18%	0.61%
	Q4	100.4	2.14%	0.83%	563.1	2.70%	1.17%	315.9	1.36%	0.70%
2012	Q1	126.4	2.70%	1.04%	604.8	2.90%	1.26%	348.7	1.51%	0.78%
	Q2	133.7	2.85%	1.10%	643.4	3.08%	1.34%	382.9	1.65%	0.85%
	Q3	142.8	3.05%	1.18%	686.2	3.29%	1.42%	421.9	1.82%	0.94%
	Q4	158.7	3.39%	1.31%	746.5	3.57%	1.55%	465.1	2.01%	1.04%

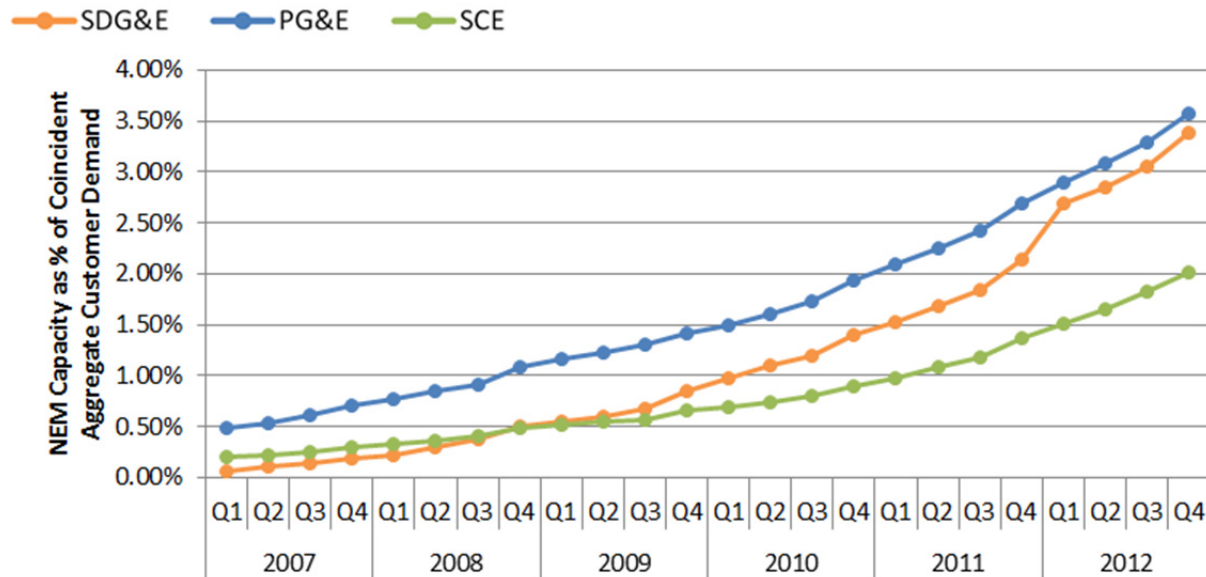
Figure 15. Total NEM Capacity



Source: Data is from Interconnection Departments

California Solar Initiative CPUC Staff Progress Report, Data Annex - 2012

Figure 16. NEM Capacity as a Percentage of Aggregate Customer Peak Demand (Coincident)



Source: Data is from Interconnection Departments

Figure 17. NEM Capacity as a Percentage of Aggregate Customer Peak Demand (Non-Coincident)

